

**METHOD AND APPARATUS FOR TESTING DIGITAL CHANNELS IN A  
WIRELESS COMMUNICATION SYSTEM**

**Abstract of the Disclosure**

5 In a digital channel of a digital wireless communication system including at least one mobile station, at least one base transceiver station in communication with the mobile station, a transcoder configured to provide a signal conversion between vocoder frames and pulse code modulation, and a mobile switching center for interconnecting the digital wireless communication system to a public switched telephone network, a method and  
10 apparatus for determining a fault in the digital channel is disclosed. The method includes generating a first set of vocoder input parameters from a speech input signal, and generating a second set of vocoder input parameters from an output signal substantially equivalent to the speech input signal as it is received at a mobile station via the digital channel. The method further includes calculating a metric based on the first and the  
15 second set of vocoder input parameters, and subsequently determining a fault in the digital channel using the metric.